

The Italian lazarets of the Adriatic Sea: from their institution to the fight against the economic and demographic collapse caused by epidemics

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SUMMARY

Since antiquity, with the growth of the human population and the expansion of nuclei of people (aggregations), infectious diseases have been a constant presence which decisively changed the course of history. The word “lazaret”, meaning hospital for the hospitalization and treatment of plague victims and later, also leprosy, is Venetian. It was coined in the 14th century, and was exported to the world; it is still in use although it has slightly modified its meaning: “hospital in general, and shelter for infectious diseases”. Lazarets perhaps arose from the overlapping and crossing of the name Nazareth associated with Lazarus, protector of leprosy patients and from other contagious diseases in general. The island of “Lazzaretto Vecchio”, overlooking the Lido di Venezia, was named Isola di Santa Maria di Nazareth before the 15th century. However, the first city to take an official step in this direction was the Republic of Ragusa (Croatia), a city-state and flourishing Maritime Republic which was a trading pivot between the Ottoman Empire and the West. In 1377, for the first time in history, the city established a thirty-day quarantine on the three uninhabited islands of Mrkan, Bobara and Supetar for people arriving from infected places. The Republic of San Marco (Venezia) devised one of the oldest and most far-sighted sanitary solutions to contain the spread of the plague: a lazaret, or sanitary

model of isolation and treatment that spread, with the name radiating from Venice, around the world.

Venetian lazarets were the site of the Republic’s innovative strategy to prevent and combat the plague, not only by isolating people for quarantine and goods from infected countries, but also by implementing complex procedures of ‘contumacy and purgation’ that required a constant investment of economic resources and slowed down traffic.

Venice’s governors quickly realized that spending money to prevent and fight the plague in lazarets was the only way to counter the economic and demographic collapse caused by epidemics. In the wake of the Venetian and Ragusian lazarets, Trieste also established its first lazaretto in 1717. This was because ships laden with goods from the Near East began to arrive in the city, and this new situation necessitated the adoption of a regulation of contumacy and the construction of a lazaret.

This study aims to bring light to the main lazarets over the centuries, particularly those in the Ferrara district and those located in the upper Adriatic Sea, such as Trieste and other neighbouring cities built to fight pandemics.

Key words: Lazarets, epidemics, plague, leprosy, cholera, hygiene rules.

■ INTRODUCTION

Since antiquity, with the growth of the human population and the expansion of nuclei of people (aggregations), infectious diseases have been a constant presence. The plague is a formidable example; the elements behind its spread were climate change, urban overcrowding, demographic expansion and maritime trade; to which were then added malnutrition and poor hygiene; in fact, it has been estimated that at the time of the Black Death there was at least one family of rats per house, with at least three fleas per rat.

The preventive measures adopted in Italy were numerous and sometimes even groundbreaking, although in the 14th century the aetiological agent and the zoonotic mechanism of transmission were unknown. From 1348, the plague began to travel as a harbinger of clandestine death. The plague contagion had two privileged vehicles, the rodent and a flea living on its fur, which was also transferred to humans. In ships, rats posed a threat to goods, but also to the people they came into contact with as they made their way to ports. The hypothesis that the plague in Europe was predominantly by rats is now contradicted [1]. The incubation and course of the disease lasted only a few days and death was rapid, characterised by high fever, burning and delirium. Diagnosis was facilitated by the appearance of dark lymph nodes in the groin or armpits near the area affected by the flea. The contagion spread rapidly and with an even higher mortality rate in its septicemic and pulmonary forms, which did not need fleas to spread but only oral contact between men.

The idea of isolating the sick arose in the Middle Ages, when epidemics of plague, smallpox and other scourges were transmitted through roads and trade routes. Death travelled in caravans and merchant ships, and doctors realised, even though they had no idea what viruses and bacteria were, that isolation could be one of the few ways to combat epidemics. The first city to take an official step in this direction was the Republic of Ragusa (today Dubrovnik, Croatia), a city-state and flourishing Maritime Republic which was a trading pivot between the Ottoman Empire and the West [2]. In 1377, for the first time in history, the city established a thirty-day quarantine on the three uninhabited islands of Mrkan, Bobara and Supetar for people arriving from infected places [3].

For Venice, navigation and trade were the basis of many economic and cultural relations with the civilisations of the Mediterranean and the Far East. The rarest and most precious goods arrived in the ports of Constantinople and Alexandria and were then shipped to the great Venetian docks. But the plague also travelled with goods and people. This was one of the first examples of the globalisation of goods and the vector insect [4].

At the time, Venice, with its constant relations with the East, found itself in the front line; it could not give up the trade on which it based its fortunes, so it took measures to defend public health by inventing the first lazaretto in history. On 28 August 1423, during the umpteenth plague, the Venetian Senate established a facility for the sheltering and isolation of people suffering from plague and leprosy and the isolation of plague victims, staffed by State personnel. A real *cordon sanitaire* to protect Venice from epidemics arriving from outside. At a time when charity and assistance were managed by the clergy, the Republic therefore founded the first highly isolated hospital using the island of Santa Maria di Nazareth, which bore the name of the pre-existing hermit convent. The name of the place was changed to Nazaretum, Lazaretum and finally to 'Lazaretto'. This name was later adopted by similar structures in the West on the Venetian model.

In the wake of the Venetian and Ragusian lazarets, Trieste, too, established its first lazaretto in 1731. This was because ships laden with goods from the Near East began to arrive in the city, and this new situation required the adoption of a regulation of contumacy and the construction of a lazaretto.

Venetian lazarets were the site of the Republic's innovative strategy to prevent and combat the plague, not only by isolating people for forty days (quarantine) and goods from infected countries, but also by implementing complex procedures of 'contumacy and purgation' that required a constant investment of economic resources and slowed down traffic. Professionals were activated to guarantee treatment and reception and purification procedures, with an economic impact on the territory. It was therefore a revolution for the time. If Venice invented lazarets, it is also true that this turned prevention into business and hence competition with neighbours, *e.g.* Trieste and Ferrara. Venice immediately realised that spending money on preventing and fighting the plague in lazarets

was the only way to counteract the economic and demographic collapse caused by epidemics. In short, the lazaretto, in its essence, characterised the hope of recovery and the path to reintegration into society. But unfortunately, this was not always the case.

This study aims to shed light on the main lazarets through the centuries, particularly those in the Ferrara district as well as those located in the upper Adriatic seas such as Trieste and other neighbouring cities built to fight pandemics.

The establishment of the Lazaretto of Ferrara

An important source for reconstructing the places and environments of the lazarets, set up in Ferrara during and in advance of epidemic events is the work of 1868 *Notizie amministrative, storiche, artistiche relative a Ferrara* by Luigi Napoleone Cittadella [5]. In chapter XXVII *Sanità*, he begins by dealing with the pestilences¹.

San Lazzaro

In 1177 Guido de Bora, Paganino Cambiatore di Bocca Canale, Ramberto Raguseo and Durante obtained from Pope Alexander III, who lived in Ferrara at that time, to build a church and a hospital dedicated to S. Lazzaro in the village of Quacchio, for the treatment of leprosy patients.

The plague emergency was controlled in Ferrara by taking advantage of the presence of islands west of the city along the Po River.

Since the beginning of the fifteenth century, there was the *Ospitale di S. Matteo* in Mizzana. However, for the isolation and care was identified a small island between the church of S.M. di Betlemme (formerly S. Matteo) located in Mizzana and that of S. Maria located in Cassana.

In August 1436, since that place was not enough for the plague patients, it was decided to activate another one in the Monastery of S. Lazzaro. It was

decided to ask the Marquis of Este that the monastery could be used as the Hospice of S. Lazzaro to isolate and hospitalize the plague patients for as long as the contagion lasted. An emergency situation then, so as not to displease those monks who were highly esteemed and protected by the Pope. The matter was managed with the collaboration Judge of the Sages (*Savij*). The friars contributed with the gift of one thousand liras to the construction of another hospital nearby. It is not known if in a very short time or if they were forced to use their hospital.

What the author Cittadella says, is confirmed by the studies² of Stella Pattitucci Uggeri [6]. The location is to be considered outside the *Porta di Sotto*.

Il Boschetto

In 1466 it was rented and three years later, in 1471, it was bought by Dionigio Spezia, the small island located on the Po River west of Ferrara (Figure 1) in the *Borgo di Mizzana*. It was called S. Sebastiano and then took the name of *il Boschetto*, on which in the years 1486 or 1487, with the addition of a public collection, a large building was begun, which was not completed until 1493³.

Architect: Pietro Benvenuti (his name was *de Ordinibus* because he had collaborated at architectural orders of the Cathedral bell tower), bricklayers: M° Nicolaus de Cremona, M° Jacobus di S. Leonardo. The direction of the works was entrusted to Benvenuti, so that everything was done according to his project: columns with very accurate details (*vel tondas, vel ad octo cantonos seu angulos ... bene compositas et incisas, cum basis et capitellis incisiss ...*); details were agreed for the whitewashing, roof planking, ceilings, well-made doors, windows, small towers at the front door entrance. In the cen-

1 Cittadella says: the name *Lazaretto* derives from Lazarus, the Leprous. He attributes the first institution to Milan in 1374, the infected were expelled and relegated outside the city. Since leprosy was more infrequent, the Lazarets were used to isolate the infected in epidemics. The Cittadella librarian takes up what is recorded in the works of Antonio Frizzi (Memorie per la Storia di Ferrara. Tomo V postumo ed ultimo. Per gli eredi di Giuseppe Rinaldi, Ferrara; 1809) on the history of the city and Luigi Buzoni (Di alcune gravi pestilenze. Bresciani, Ferrara Bresciani; 1829) who deals more specifically with plagues.

2 In 1436 it was designated by the municipality as a hospital; for this purpose, a special building was erected with resolutions of 1438 and 1439 and it was destroyed in 1576.

3 On June, 26 1466 the construction of a new hospital was approved on the island of S. Sebastiano called *il Boschetto*, decreeing that the Judge and the *Savij* would go to the place on the following Monday *ad examinandum et designandum locum ubi incipere debeant*. In the following July we proceeded to the stipulation with master masons (... *gloriosi Sancti Sebastiani, sub cuius titulo et vocabulo fundatur et fabricari intenditur laudabile pium et sanctum opus hospitalis pestiferatorum, super policino sito in Pado ex opposito Cassane Burgi Ferrarie ...*). It will be built on the island located on the Po River in front of Cassana, a hamlet of Ferrara.



Figure 1 - Lazaretto. The island was located on the Po River in front of Cassana and Mizzana (Magini G.A. *Carta geografica raffigurante parte del territorio di Ferrara, Bologna e Ravenna* [copper etching], *Atlante geografico d'Italia*, Bologna, 1620, Private Collection, digital version, 2022).

tre of the courtyard for the water, was a large and magnificent cistern.

Because of the approaching of plague, in 1493 the need to expand the hospital was felt. Milan is asked for a project. On the basis of the latter, reproduced by M.ro Alberto Trullo *depintore* in paper parchment (*in carta pergamena*), the works are carried out in the same year.

For the start of the works *Guaspero de Padoa nocchiero* (helmsman) leads the *Mag. Giudice dei XII Savij*, *Pellegrin de Persian* and others *Savij* to trace the foundations (*per designare li cavaminti de fondaminti de dita fabricha*).

It is reported to have had more than one hundred cells, and in front of them there was a portico supported by round brick columns.

The attending physician benefited the from the proceeds of herbs and plants (in 1500 Francesco Castelli, in 1528 Pedro Castagno, who lost them in 1549 for neglecting of his duties, *per trascuranza dei suoi doveri*)⁴.

It was sold to Ippolito Boschi and later to Cesare Fogliani. These last changes of ownership reveal that it was no longer used as lazaret. Scalabrini reports that due to the flooding of the Po River the island was now joined to the countryside, no longer suitable for isolation.

In the years 1554 and 1555 the lazaret is cited as *hospital de S. Rocho, seu boschetto dei amorbati* (S. Roc-

co's Hospital or wood of the infected)⁵. After the 1570 earthquake, restoration work was carried out on the beams, roofs and houses (*cassette*) in 1572.

The exit from the city was through a door (*Porta della Gusmaria*) at the end of *via della Rotta* (now *via Garibaldi*), which was walled up once the pestilence ended⁶.

The fact that the ancient Lazaret was no longer suitable is shown in an edict by Cardinal Sacchetti of May 19, 1631: it states that a lazaretto is any place closed to the infected and any place that once declared a lazaretto will continue to be so until it is declared free⁷.

At the same time, many private houses were converted into hospitals, *in molte ville* in many inhabited outside the city. According to Frizzi, another lazaret was erected *ad interim* in Cocomaro di Focomorto in 1630 in the Strozzi palace, no longer existing in the nineteenth century, in a place called

5 Payments to various artisans are mentioned: *M° Zoane da Vento, tajapreda* (brick cutter) *per far rosse le colonne de predade de le lozete* (to make the brick columns of the loggia red), *M° Arma dalli Arma, tajapreda per capiteli* (capitals), *basse* (bases), *colonne* (columns), *M° Bartholomeo Calabrese tajapreda* [...].

6 From an expense note of 1510 here are some details: the carts and the *Burchiello* (boat) were equipped with three weathervanes of black cloth painted with a death's head and emblem of Municipality on each side; the gravediggers (*pizzamorti*), distinguished by *sei bande* (six bands) *de tela negra cum croce bianca depinte suso* (of black canvas with white painted cross). The gravediggers were called *assetradori*, *sottramorti* (burial), o *pizzamorti*.

7 *Intendersi per Lazzaretti ogni et qualunque luogo serrato per gl'infetti, et ogni luogo che una volta sarà dichiarato Lazzaretto continuerà ad esser tale sinché sarà dichiarato libero.*

4 Ferrara boasted a famous oil *contra pestem*, the *Olio del Duca*. It was during the epidemic of 1528 that Pietro Castagno, a Spanish physician hired by the city, used the oil against plague, of which he kept the secret.

the *Camerina*, because it belonged to the family Varano da Camerino.

The Lazarets in the epidemic of 1630

Changes in the course of the Po River due to breaking of the banks and floods gradually led the prevalence of the branch of the *Po di Venezia* over the *Po di Volano*, which laps the city of Ferrara to the south. The islet was jointed to the mainland.

On the occasion of the plague of 1630 cited by Alessandro Manzoni, foreshadowing a pandemic event of great proportions, Ferrara had to locate other places of isolation than the usual one as an island in the Po River in front of Stienta, but it was not used. Other perspectives were the convent of *S. Giorgio* (100 beds), the restoration of the Arsenals to be used as a hospital for the sick. The few cases, owing to strict laws and the rule of considering every suspected case as a plague and immediate isolation, enabled only the Lazaret of *San Luca* south of the city to be used.

On the border of the Legation of Ferrara to the north and south Pontelagoscuro, Cento and Lugo (due to the relaxation of the measures) had numerous cases in the lazarets [7, 1].

Santa Maria della Consolazione

Documents from 1811 testify to the hospitalization in *S. Maria della Consolazione* of *Detenutte di Polizia*, syphilitics (females) in a state of detention and treatment. In the second half of the nineteenth century, syphilitics (males and females) were treated in the St. Anna Hospital instead [8]. The Lazaret of *S. Maria della Consolazione* (Figure 2) was also used for the hospitalization of smallpox, at first in the



Figure 2 - *Santa Maria della Consolazione*.

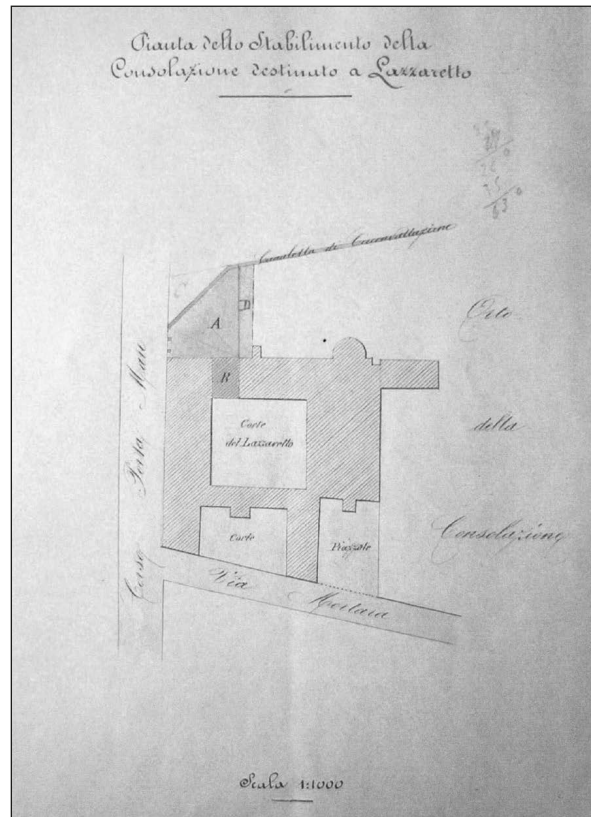


Figure 3 - Topography of the Lazaret, 1892. Archivio Storico del Comune di Ferrara, Fondo Carteggio Amministrativo del XIX Secolo-Categoria Sanità, Busta 63, Anni 1891-1900.

infectious rooms of St. Anna Hospital and then in the rooms of the Lazaret [9].

On 3 April 1893, a dispute arose between the municipal council and a private citizen over the expropriation of land. Reference is made to a note dated December, 2 1891 in which the hospital administration demonstrated the need for the Municipality to provide itself with an express room for the laundry and disinfection of the beds and lingerie belonging to the sick unrelated (were not) to the *Lazzaretto della Consolazione* because of contagious diseases. The entrance is independent from *Porta Mare*, with the possibility of using an area for drying linen, excluding the hypothesis of building a shed with a furnace equipped with boiler [10]. The map of the *Lazzaretto* of *S. Maria della Consolazione* (Figure 3) is always kept in the same envelope (*Busta*) [11]. The Lazaret is active for smallpox also in the Spanish Flu period [12].

Santa Maria di Mortara

During the *Cholera morbus* epidemics that struck Italy in the 19th century, other places for isolation and treatment were considered, even outside the city in Francolino. A number of Swiss soldiers were hospitalized there in 1836, hired by the Papal government from Lombardy which was infected at the time. The continuous transit of troops in the city was a vehicle of the disease. Military lazarets were also present [13]. Bosi in his Report on *Cholera morbus* which dominated the city and province of Ferrara in 1849 refers to a Lazaret in Mortara (*Ospitale d'Osservazione pei Cholerosi*) [14].

Documents dated September 1854 indicate a variation in the occasional availability of the Mortara premises for barracks for Austrians in favour of their use as an observation hospital/lazaret (*Hospitale di osservazione/Lazzaretto*) in the event that cholera had arrived in the city [15]. The maps attached to the documents (Figure 4) confirm that this is not *S. Maria della Consolazione* in Mortara Street (as believed by some scholars), but the convent of *S. Maria delle Grazie/S. Maria di Mortara* (Figure 5, Figure 6) overlooking the two streets of *Mortara* and *Fossato di Mortara*.

S. Agostino in Comacchio and *S. Andrea* in Ferrara
At the beginning of 19th century there was a need to activate a Lazaret in Comacchio, where cases of leprosy have been reported for some time. *Si pone mano (1807) alla costruzione dell'auspicato lazzaretto, riducendo a tale scopo "la fabbrica già in uso del Con-*

vento di S. Agostino in Comacchio, giuste le prescrizioni date dallo stesso Campana, following the indications of Antonio Campana in 1807 work began to adapt the convent of S. Agostino to use as a hospital [16].

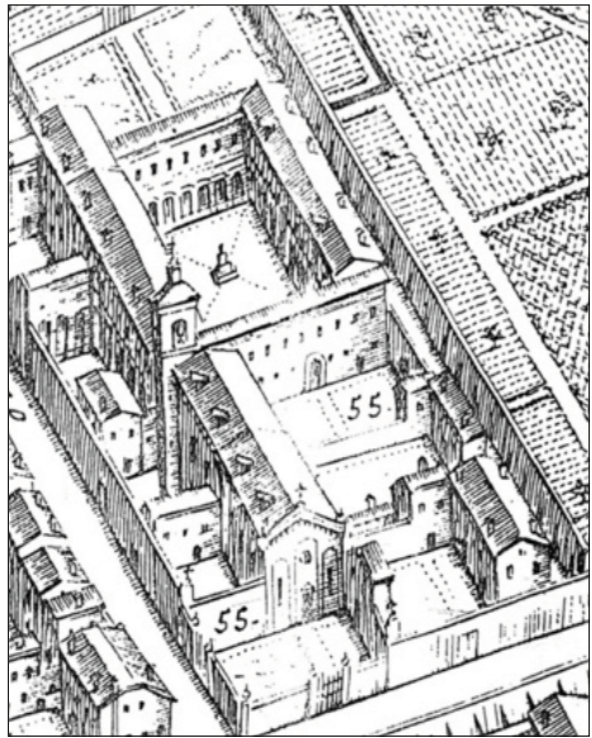


Figure 5 - Convent of *S. Maria di Mortara*, Axonometric projection by Bolzoni, 1747.

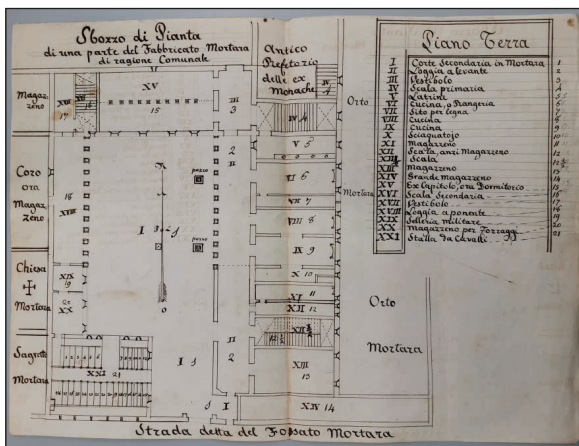


Figure 4 - Maps of *Lazzaretto*, Archivio Storico del Comune di Ferrara, Fondo Carteggio Amministrativo secolo XIX Categoria Sanità, Busta 43.



Figure 6 - *Bollo ovale* (stamp), 1855, Archivio Storico del Comune di Ferrara, Fondo Carteggio Amministrativo secolo XIX Categoria Sanità, Busta 41.

As reported in Report of Campana, the convent is located on a peninsula that can be separated from the town by putting a small drawbridge on it (*mettendovi un picciol ponte levatoio*) [17].

Even though the lazaret was activated, it would definitively abandon the site in the aftermath of the Congress of Vienna (1815), turning the former convent into an Austrian fortress. The impossibility of finding other suitable places in Comacchio and the lack of means to found a new lazaret suggest that the lepers be housed in Ferrara in the large, healthy building of the former convent of S. Andrea, in *Camposabbionario* street, near *Palazzo Schifanoia* [18].

Hygiene rules. From building structure and services, to disinfection practices

Establishments included large open spaces, possibly covered, provided in the design of newly built structures (e.g., *Boschetto*) or existing ones by taking advantage of cloisters or convents converted for use (e.g., *S. Maria della Consolazione*, *S. Maria di Mortara*, *S. Agostino*). Lazarets could be built in the city, or rather on islets (*Boschetto*) or in peninsular areas (*S. Agostino*).

Fences were provided to demarcate areas for different stages of the disease (see plague in Ferrara in 1630, San Luca and Pontelagoscuro). When possible, single rooms were set up (*S. Agostino*, *Comacchio*) and areas for convalescence (e.g., *S. Maria di Mortara*, *Cholera*, 14-day isolation).

There could be no shortage of wells and laundries. The laundry area can be seen in the map of *S. Maria della Consolazione* (Figure 3).

The system adopted in Comacchio is rather curious: *Art. 21*: Dirty clothes pass through a small opening made in the floor corresponding to a wash-house (*trogolo*), where common lye (*ranno* or *liscivo*) is put every week. The laundress may not wash them until they have been completely soaked inside for at least an hour.

The nurses, the Overseer (*Sovrastante*), the Physician, the Surgeon (*Chirurgo*), and the Confessor do not enter the enclosure unless covered by a shiny cloth (*veste di tela lucida*). When they leave, they put themselves in a disinfection chamber (*camera di espurgo*) and wash their hands with water and vinegar (*Comacchio*) [19].

Personal protective equipment and sanitizing products were mandatory:

a) Oilcloth robe with hood for doctors and assistants (*Inservienti*);

- b) Taffeta gloves to be used as above;
- c) Clothespins to pick up soiled objects;
- d) Clogs;
- e) Devices and ingredients required for Guyton Morveau and Smith fumigations;
- f) Large disinfectant device and small portable disinfectant devices;
- g) Oil (*common oil*);
- h) Chloride of lime;
- i) Vinegar;
- l) Stretchers plastered with paint, covered with oilcloth (*Lazzaretto Mortara*) [14].

Personal protective devices made of oilcloth (*tele incerate*) were also used in plague epidemics [1, 7]. In the case of cholera, reference is also made to taffeta gloves, a very thin and shiny silk fabric with a very dense weave.

All workers in the Lazaret (*Ospitale di Osservazione*), after visiting the sick, had to wash their hands (*lavacri*) with the solution of chloride of lime and vinegar (before visiting or touching them, they had to anoint their hands with oil). Then they will remain for a few minutes in an atmosphere impregnated/saturated with chlorine through fumigation, which will be carried out by the Phlebotomist (*Flebotomo*) and the First Orderly (*Primo inserviente*) [14, 20]. This takes place in a dedicated room (*Camera dei suffumigi*, Fumigation room) (Figure 7).

This is strikingly very similar to current sanitation practices as well as the PPE employed.

Already at the time of admission, the patient and the two porters were to be subjected to Morveau fumigations and the hands cleaned with chlorine of lime. After these operations, the oiled cloths could be put away (the same sanitizations apply to the transport of corpses to the cemetery) [20].

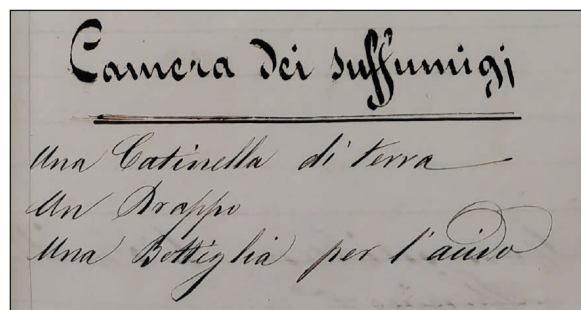


Figure 7 - Fumigation room, *Camera dei suffumigi* (Busta 43 *Inventario degli effetti esistenti nel Lazzaretto dei Cholerosi di Mortara in Ferrara*).

Guyton Morveau's method is reported by Antonio Campana in *Farmacopea Ferrarese*: production of chlorine from manganese oxide and sodium chloride/sulfuric acid or nitric acid/hydrochloric acid [21]. There was also the possibility of a portable apparatus, a disinfectant flask, a bottle to be opened when needed, with a screw safety system [22]. Smith's method: potassium nitrate was used instead of sodium chloride with production of nitrous acid.

To disinfect the rooms, basins were placed in the center of the room; the room was saturated with chlorine and then ventilated. Ventilation of the rooms and sun exposure of what could not be washed, such as straw mattresses, were important.

The establishment of the Lazaret of Trieste

The first Lazaretto in Trieste was built and developed under the rule of the Habsburg Empire in 1731, when the Adriatic still featured lazarets built along the coast. In fact, the first lazaret was built in Kotor in the late 16th century [23].

By the mid-16th century, all major cities in northern Italy had specific sanitary magistrate ships, reinforced in times of emergency by sanitary commissions established in smaller towns [24].

Interestingly, lazarets operated by the Austrian monarchy followed different fumigation and sanitation procedures from those in Venice and Italy. For example, in 1814 the Medical Faculty of Vienna declared fumigation with plant essential oils ineffective and introduced the use of mineral acids, saltpeter, and bran [25].

On the Adriatic coast, defensive systems were reinforced by armed sailboats (feluccas, trabaccoli, baragozzi) to block illegal landings and by coastal observation towers coupled with armed infantry to stop and register people and goods passing through the post [24].

Lazzaretto Vecchio

By the end of the 15th century and during the 16th century the plague had spread (partly in connection with the Venetian-Habsburg war of 1508-1516) to Carniola and the Littoral; it raged in Istria, Trieste, and the Friuli villages [26]. In the 17th century, Koper and Gorica, both under Venetian rule, were hardly hit by the plague in 1630-31 and 1682-83, respectively [26]. During this period, King Charles VI (1685-1740) was the first ruler to take an interest in the potential of maritime trade

in the Mediterranean Sea. In fact, he decided to set his sights on a small port called Trieste (ancient Tergeste during the Roman Empire), where he would embark and entrust all goods produced in the wealthy Bohemian provinces. Thus, on March 18, 1719, Trieste was declared a Free Port and from then on, the construction of the city's first lazaretto was ordered. Thus, the Lazaretto Vecchio (also called Lazzeretto of St. Charles as a contribution to the emperor) was arranged in the Campo S. Marzio district between 1730 and 1731 [23, 27].

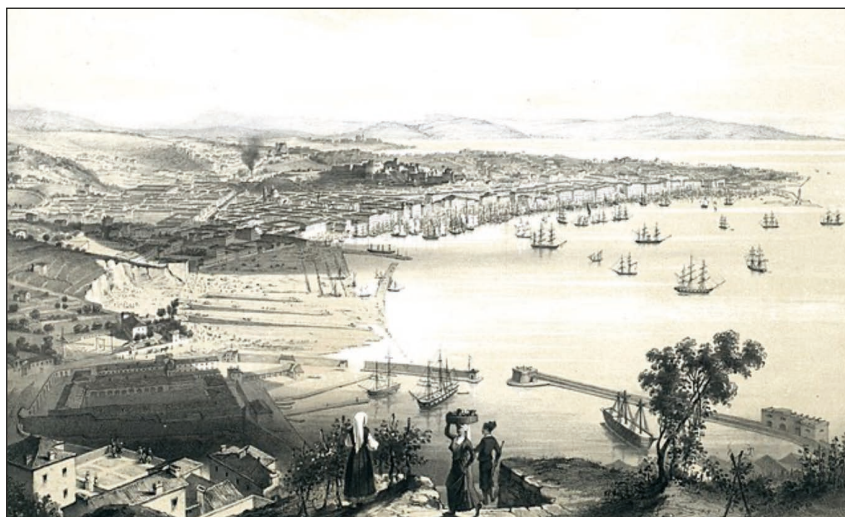
The structure consisted of two wooden pillars and their respective courtyards: net and rammed earth. Between the two, communication was possible only through the parlor. Away from the entrance were the purging warehouses and the arsenal. In addition, a three-story building, the Priory, housed the offices and was characterized by the presence of two sun dials with the Italic (or Bohemian) hours and the French ones, which did not correspond [25, 27].

St. Theresa's Lazaretto

By the time of Charles VI's death (1740), Trieste was a rising merchant ship and the small Lazaretto Vecchio was insufficient to meet the flow of commercial ships that had to satisfy the needs of the entire Empire. Moreover, it was increasingly being used as barracks because of the countless wars Austria had to support [25]. Thus, in 1752 the Magistrate of Sanity was established, and in 1768 a second, larger and more functional lazaret was built, thanks to the huge investments of Queen Maria Theresa (1717-1780), the young daughter of Charles VI [25, 27]. For this reason, it was called St. Theresa's Lazaretto (Figure 8) and was upgraded by the new railway built in 1857 [23]. The new Trieste lazaretto became one of the most modern maritime health institutions in Europe. Unlike its predecessor, it was able to accommodate ships already suffering from the major infectious diseases of the time [27]. Interestingly, Trieste could act in this way but at the same time it could also repel them. These ambiguities were particularly unfavorable obstacles for the import of grain from the Black Sea port of Odessa; from which ships often sailed with Dirty License certificates. This highlighted the future and contemporary opening of the St. Martin's Lazaretto in Rijeka [28].

The modern St. Theresa's Lazaretto housed two contumacious buildings, a hospital, a chapel, and

Figure 8 - Bird's-eye view of *Lazzaretto di Santa Teresa*, Trieste. Vue prise au-dessus du Lazaret Neuf. Guesdon, Alfred Schultz, C. 1855. Source commons.wikimedia.org.



four warehouses, in addition to the well-known Priory building [25, 27].

In 1791, "An account of the principal lazarets in Europe" by John Howard (1726-1790), a famous British philanthropist, was published; a masterpiece in which both the Old Lazaret and the St. Theresa's Lazaret were mentioned. The author himself thanked the Director of the Sanitary Office for allowing him to copy the maps of the two lazarettos [29].

In the 19th century, the most feared infectious disease was Cholera morbus, which spread across Europe in 1831, without affecting the city of Trieste [23]. However, from 1835 to 1886 the city was hardly hit by the disease at least ten times, with a death toll of 40 percent among those infected [23]. In 1851 the Maritime Health issued the Sovereign Ordinance of December 15; which classified ships according to their origin and risk of carrying cholera, yellow fever and plague. The voyage warrants issued by the authorities were called, in order of safety: Free License, Net License, Bad License and Aggravated Bad License [23]. For example, the Free License allowed the ship and crew free access to the porthole; while the Aggravated Ugly License meant that an infectious disease was found on board [25]. In cases of Aggravated Ugly License and Ugly License, a small lifeboat was used to reach anchored ships, and their captains were taken to the Provveditorate of Sanitation or the Casino of Sanitation. Here the captains would make a detailed voyage report before quarantining the

crew and all goods in the Lazaretto [25]. The duration of quarantine varied from 24 hours to 40 days depending on the voyage and the cities touched. Thus, competitiveness among Adriatic ports was also played on the basis of the quality of services offered during quarantine. In this sense, St. Theresa's Lazaretto was surprisingly attractive compared to other competitors on the upper Adriatic coast.

Lazaretto of St. Bartholomew

The city's last Lazaretto was built in Muggia, a small fishing village located southeast of the main city. In fact, with the increase in naval flow and the opening of the Suez Canal (1869), more space was needed for quarantined ships. At the same time, the expansion of imperial rail lines and the need for modern scrupulous ports led to the decommissioning of St. Theresa's Lazaretto in favor of a new one. In 1869, in fact, the city's third lazaretto, St. Bartholomew's Lazaretto, was born. In the same year it was ready to be visited by King Franz Joseph (1830-1916) [23]. In addition, the main entrance of the old lazaret, of pleasant Baroque style, was later transferred from St. Theresa's Lazaret to the new one. Unlike the previous lazarets, the new structure was also equipped with a crematorium and a bacteriology laboratory [27]. Interestingly, the new lazaretto had the honor of being directed by Giovanni Bussolin, one of the leading experts on contagious systems at the time. In 1878 he compiled numerous illustrations of the main Med-

iterranean lazarets after a long study trip, becoming itself an important source of study [30, 25]. During the last cholera epidemic recorded in Trieste (1886), a new hospital specifically for infectious diseases was built to cope with the growing epidemic curve. The name of the health facility was S. Maria Maddalena and it was equipped with isolation pavilions for *Vibrio cholerae* infected patients and modern sewage skimming systems. In 1986 nearly 900 cases of cholera were recorded, with 319 hospitalizations and 196 deaths [23]. The third-last lazaret in Trieste was, at least architecturally, the most modern institution of its kind in the Monarchy. With the decline of those in Dubrovnik and Split, in the second half of the 19th century the Lazaretto of St. Bartholomew in Muglia and the Lazaretto of St. Martin in Rijeka led the landings of the former Habsburg Empire [28].

■ CONCLUSIONS

During the 18th century, concern for community problems and the good of society increasingly characterized European political culture.

The good of the people and the improvement of living conditions are objectives that begin to take an increasingly central role in the projects of enlightened governments, based on the conviction that a healthy community is the necessary prerequisite for a powerful state.

A major modernisation effort by leading states spread throughout Europe and the protection of public health became an important goal for every ruler to achieve. Although there is no cure for contagious diseases, prevention, even if not curative, succeeds in containing the problem to some extent. In the western Mediterranean of the 18th century, health policy played a major role in the government of every country, and lazarettos proved to be the protagonists of prevention policy, sanitary structures that had already been conceived in Venice and tested in other important cities such as Ragusa and Trieste with the aim of isolating the pestilential scourge.

In the 18th century, all the main ports of the European Mediterranean, from Marseilles to Trieste, would be equipped with maritime lazarettos adapted to the new commercial needs.

Interestingly, the battle against plague and microorganisms turned into an economic battle for the best profits from trade.

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